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Rapid Response Institute

***Research in Support of Homeland Defense and
Homeland Security***

RISES

**Rapid Information Sharing for
Event Decision Support**

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RISES OBJECTIVE

- Demonstrate effective military <-> civilian <-> commercial message transfer in joint activities that improves incident response timeliness and effectiveness



RISES ASPECTS

- A critical focus of this program and its testing is the ability to transfer data from Defense and National tactical information systems to others in federal, state and local crisis management offices without disclosing classified sources of the information.



RISES ELEMENTS

- High level project elements
 - End-to-end military <-> civilian <-> commercial interoperability
 - Ph.D. program related to trusted communications



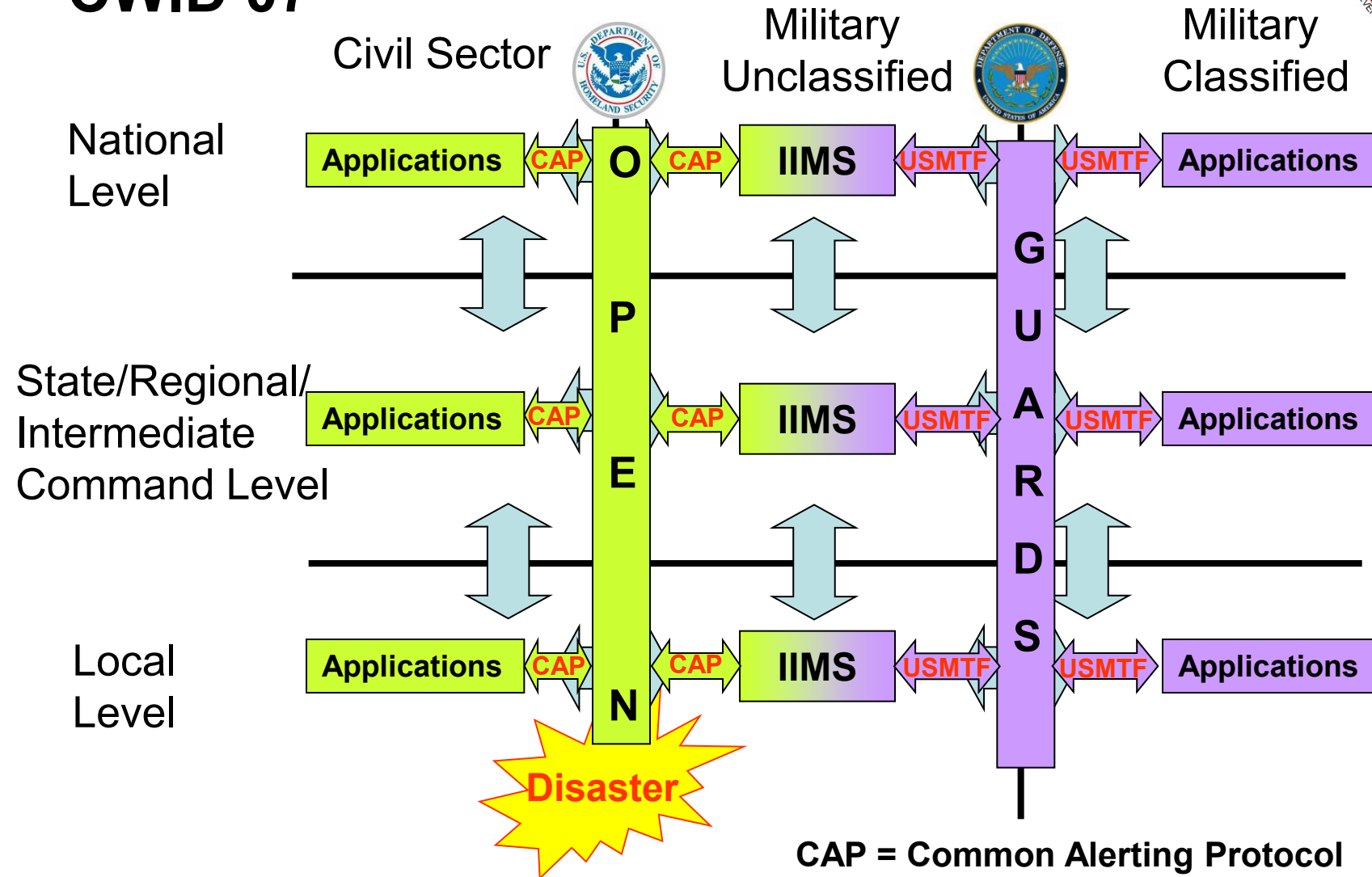
DELIVERABLES

- Field tested web portal systems specification and deployment requirements document with all source code for the prototype systems
- Conduct five RISES software demonstrations

Trial 3.27 Integrated Information Management System Operational and Systems View



CWID'07



CAP = Common Alerting Protocol

USMTF = United States Message Text Format

Proprietary

Rapid Information Sharing for Event Decision Support (RISES)

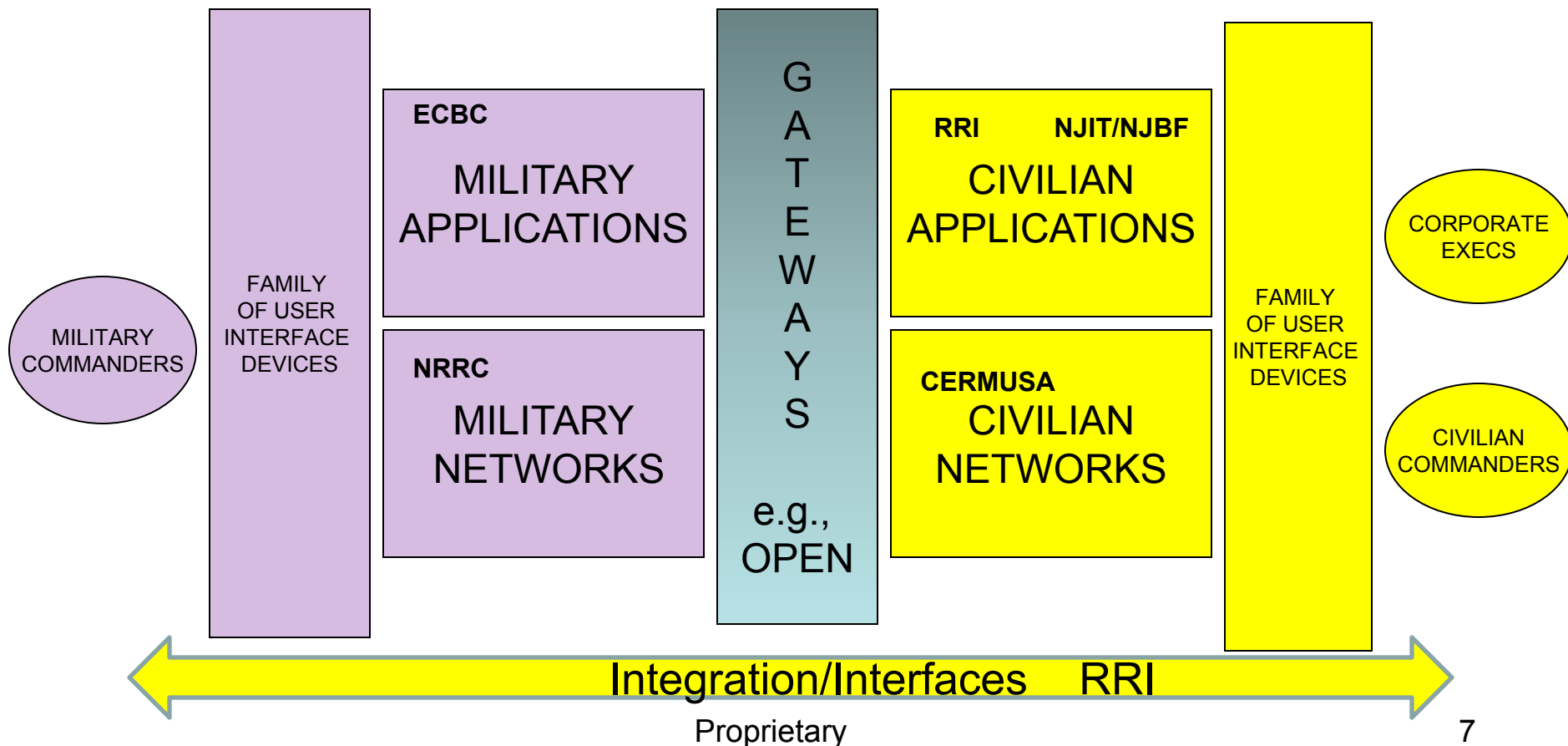
Architecture

Areas Of Responsibility



MILITARY

CIVILIAN





RISES METHODOLOGY OVERVIEW

- Development of scenarios
- Stipulation of scenario events
- Configuration delineation to serve scenarios/events
 - Informed by the start documents
- Associated message transaction requirements
- Associated test bed specification
- Test bed software prototype development
- Demonstrate message transaction

RISES SCENARIOS



Scenario	#1. Nuclear device	#2. Hurricane	#3. Earthquake with civilians on Mil Base	#4. Plague	#5. Chem Spill next to mil base	#6. "Outbreak" scenario on Mil Base	#7. Oil Rig Explosion
Sources	DHS, CWID	DHS, CWID, DECIDE	DHS	DHS	DHS, DECIDE		The News
Civilian- Military involvement reason	Military Assistance for civilian actions	National Guard Assistance for civilian actions	Civilian Assistance of Military Actions	National Guard Assistance for civilian actions	Military advisement of Civilian actions	Civilian advisement of Military Actions	Coast Guard actions coordination with Civilian actions
Type of Mil-Civ interaction	M <-> C	M <-> C	M <-> C	M <-> C	M <- C	M -> C	M <-> C
Situation Characteristics							
Multi-State		⊗		⊗			⊗
Local-Only	⊗		⊗		⊗	⊗	
Short-Term					⊗		
Mid-Term	⊗		⊗			⊗	
Long Term		⊗		⊗			⊗
Low Casualties		⊗			⊗	⊗	⊗
Mass Casualties	⊗		⊗	⊗			
No Prep time	⊗		⊗		⊗		⊗
Significant Prep Time		⊗		⊗		⊗	
Quickly understood cause	⊗	⊗	⊗		⊗		⊗
slowly understood cause				⊗		⊗	
Crime Scene Exists	⊗			⊗			
Private Industry Interaction		⊗					⊗

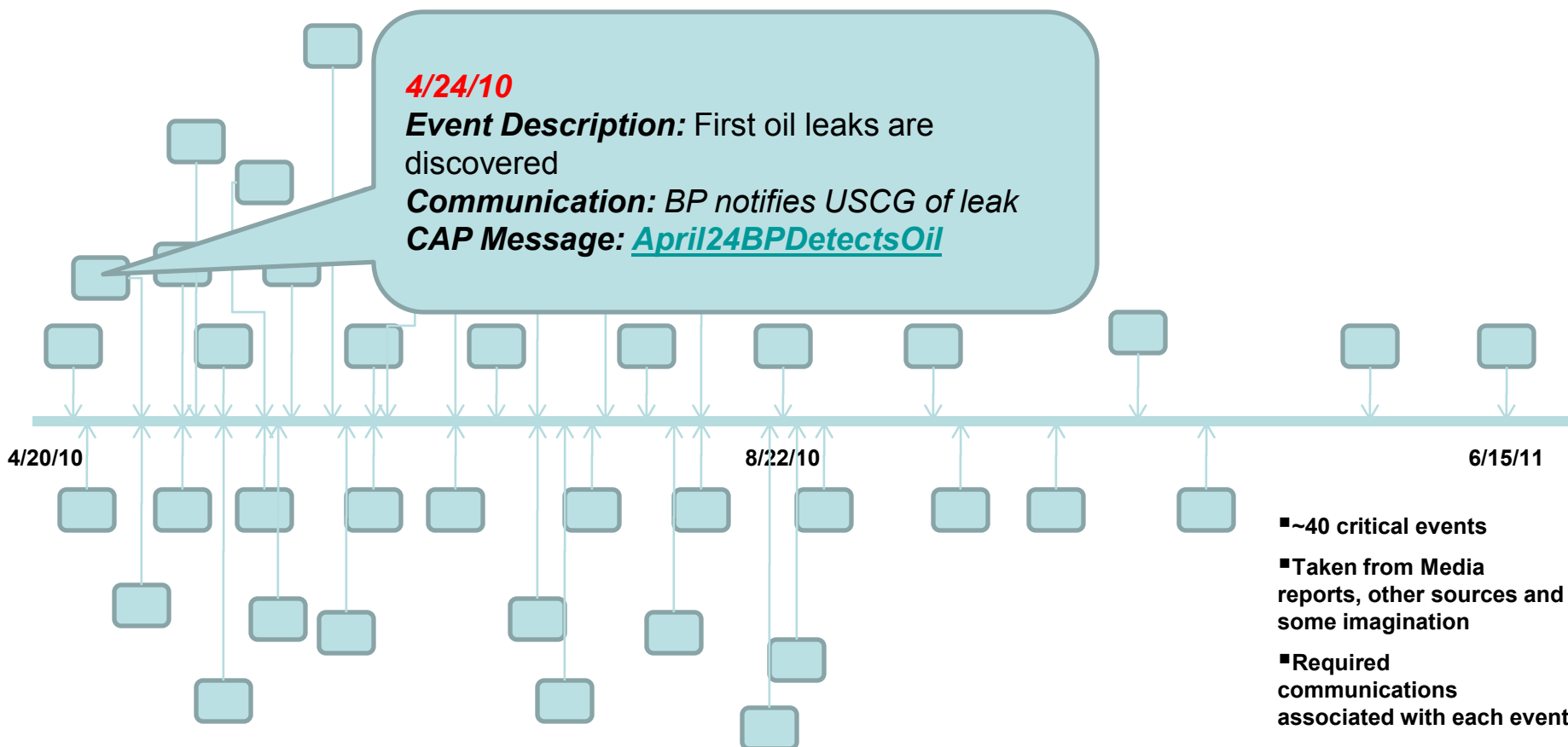
Proprietary

RISES SCENARIOS



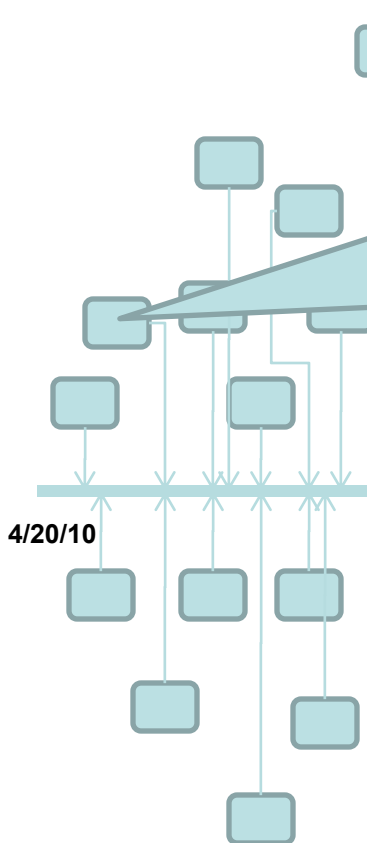
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Type of Mil-Civ interaction	M <-> C	M <-> C	M <-> C	M <-> C	M <- C	M -> C	M <-> C
Solution Characteristics							
Medical involvement	⊗	⊗	⊗	⊗	⊗	⊗	⊗
Shelters	⊗	⊗	⊗				
Traffic Management	⊗	⊗	⊗		⊗		
Prophylaxis Distribution				⊗		⊗	
Evacuation	⊗	⊗	⊗		⊗	⊗	
Hazmat	⊗				⊗	⊗	⊗
Natural Animal Population Issues		⊗					⊗
Large Economic Impact							⊗

Oil Rig Explosion Timeline



- ~40 critical events
- Taken from Media reports, other sources and some imagination
- Required communications associated with each event
- CAP messages rendered for each Communication
- Asterisks (*) used to indicate lack of confidence

Oil Rig Explosion Timeline



```
<?xml version="1.0" encoding="UTF-8"?>
<alert xmlns="urn:oasis:names:tc:emergency:cap:1.1">
  <identifier>1277743488299</identifier>
  <sender>BP Engineer</sender>
  <sent>2010-04-24T12:44:48-04:00</sent>
  <status>Actual</status>
  <msgType>Update</msgType>
  <scope>Restricted</scope>
  <restriction>US Coast Guard</restriction>
  <info>
    <event>Oil Spill</event>
    <urgency>Unknown</urgency>
    <severity>Severe</severity>
    <certainty>Observed</certainty>
    <headline>Oil Leak Detected</headline>
    <description>We have confirmed the kinked pipes attached to the sunken riser are
leaking oil. Our underwater robots confirmed there is a massive amount of leaking oil. It
is speculated that the kinks are controlling the flow of spilling oil.</description>
  </info>
</alert>
```

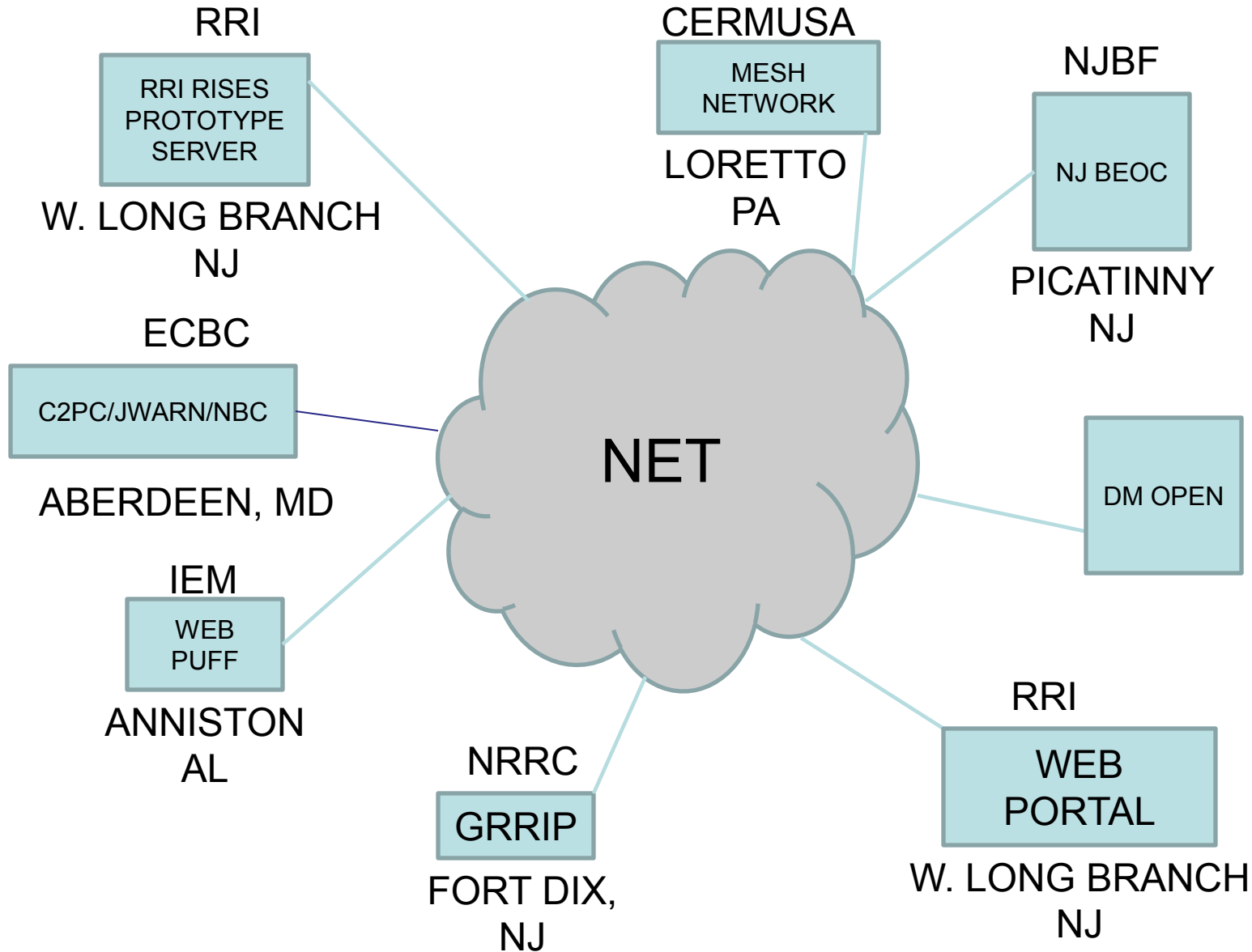


RISES TEST BED ARCHITECTURE

Principles

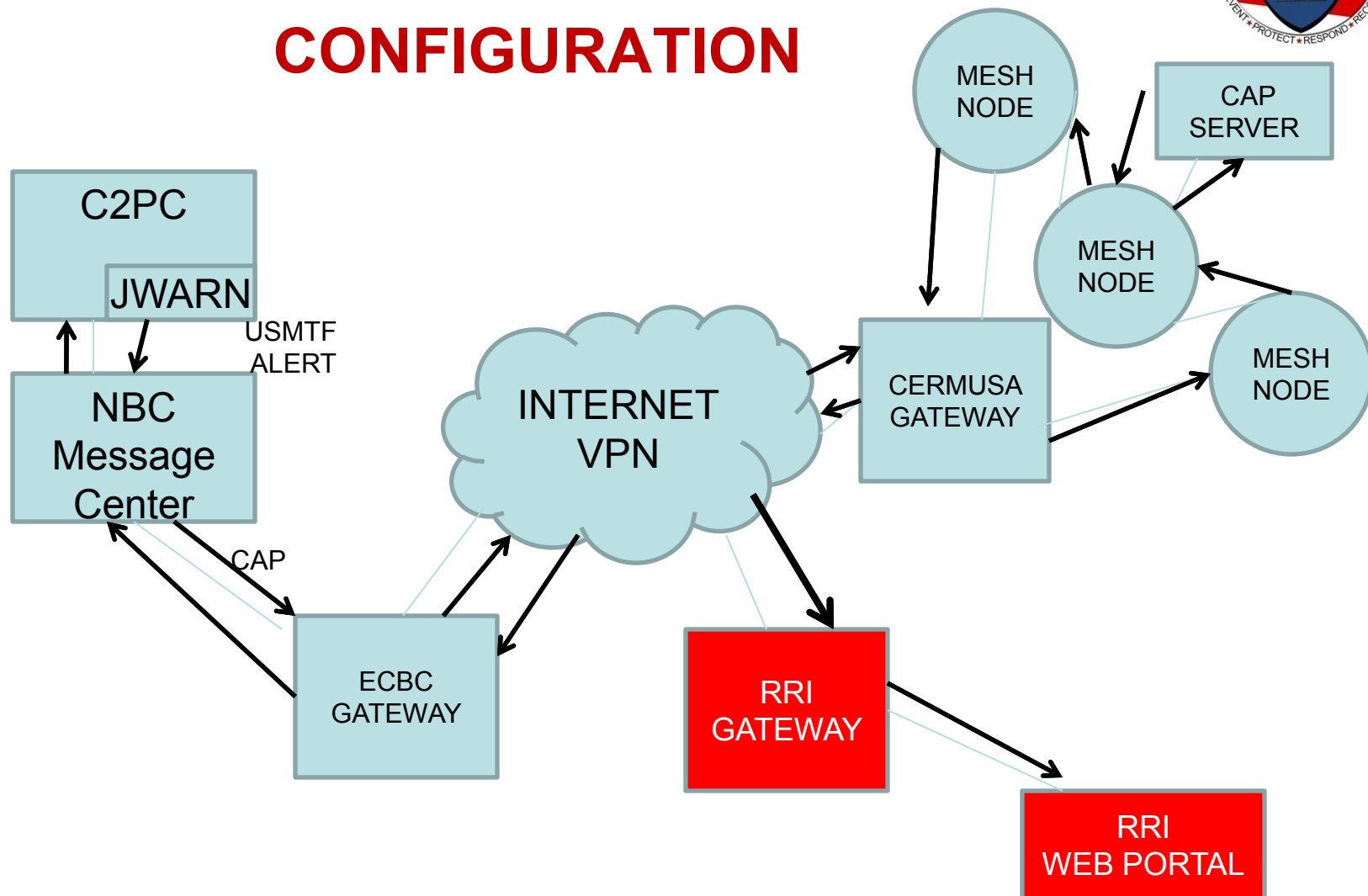
- Illustrate the RISES message transactions (end-to-end)
- Reflect components from the START documents
- Consist of both existing and prototype elements
- Be geographically distributed
- Be connected by the family of (inter)nets
- Non-legacy message level interface is the EDXL-DE family

RISES TEST BED HIGH LEVEL ARCHITECTURE (WITH EXAMPLES)



Proprietary

RISES TEST BED EXAMPLE TRANSACTION CONFIGURATION





TEST BED FUTURES

- Elements and Components that will be “Added” as driven by the scenarios
 - Multiple CAPer engines
 - Multiple EDXL-RM engines
 - National Guard’s Joint Information Exchange Environment (JIEE)
 - Projected New Jersey Institute of Technology/NJ Business Force solutions (Private Sector initiated)
 - Coast Guard Command & Control Software (CG C2)
(http://www.lockheedmartin.com/news/press_releases/2008/050808_PRNSC1Delivery.html)
 - Evolve web portal
 - Global Rapid Response Information Package (<http://www.army.mil/-news/2010/02/03/33920-army-rd-peo-partner-to-train-deploying-soldiers-on-new-technology/>)
 - Unified Incident Command and Decision Support (UICDS) middleware
(<http://www.uicds.us/>)
 - Other commercial IMSs (such as E-Team; WebEOC; MyState: etc.)
 - Develop middleware adapters as needed
 - Port CAPer and EDXL RM to handhelds/tablets
 - DM-OPEN 2.0



STATUS

- About 1 year into project that completes in 8/2011
- Developed evolving state-of-the-art documents in the areas of expertise of all RISES partners
- Have had extensive meetings with vendors, practitioners, researchers in the fields influencing and informing RISES
- Developed initial version of scenarios that would drive RISES test bed and demos
- Populated initial RISES test bed and executed test transactions
- Developed significant portion of an EDXL-RM engine
- Developed first elements of the RISES web portal using agile methodology



RISES CONTACT INFORMATION

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